



UNITED STATES PATENT AND TRADEMARK OFFICE

14-10
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,336	01/30/2004	Doo-hee Lee	Q78934	5229
23373	7590	12/18/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				PARRA, OMAR S
ART UNIT		PAPER NUMBER		
2621				

DATE MAILED: 12/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/767,336	LEE, DOO-HEE	
	Examiner	Art Unit	
	Omar Parra	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01/30/2004.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-6 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-6 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 30 January 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1.) Certified copies of the priority documents have been received.
 2.) Certified copies of the priority documents have been received in Application No. _____.
 3.) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d) based on application 2003-44251 filed in Korea on July 1, 2003. The Certified Copy of the foreign application was received on 01/31/2004.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Uchida et al. (Patent No. US 6,930,661 B2).

4. Consider **claim 4**, Uchida et al. teaches having a monitoring method for a set-top box system comprising a set-top box (“set-top box, 300” connected to “base apparatus 200”, Fig. 1, given that “the base apparatus 200 ...may also function as a set-top box”, col. 18 lines 7-9)) and a display device (“display apparatus 100, Fig.1”) wirelessly connected to each other (“...This signal –referring to a signal from set-up box 300 and device 200- is wirelessly transmitted to the display apparatus 100”, col. 14 lines 34-35), the method comprising:

(a) the set-top box (“set-top box, 300” connected to “base apparatus 200”, Fig. 1), in response to a received key instruction (“...an electronic program guide

display key on the control panel CP –referring to the controller on screen 107- so that a program guide is formed by the set-top box 300”, col.17 lines 46-50)

generating and displaying OSD information, that corresponds to the key instruction on a set-top box screen and wirelessly transmitting the key instruction (“**The on-screen display processing section 306 of the set-top box 300 is a text/graphic processing circuit which performs video signal processing to allow various messages or an electronic program guide to be displayed.”, col. 13 lines 56-59, which are displayed after supplied by “the control section 310...in accordance with an instruction from the user”, col. 13 lines 43-46);;**

(b) the display device (“**display apparatus 100, Fig.1**”) generating OSD information that corresponds to the key instruction received from the set-top box (**The bi-directional arrow from decoding section 104 and control section 130 in Fig. 2, shows that the code or control information sent from the set-top box is separated and sent to the control section for further processing at the OSD Processing Section 105 after control section output**) and displaying the OSD information on a display device screen (“**...when character information indicating channel selections or volume bar indicating the volume level is to be displayed – referring to be displayed on screen 107 – information is supplied from the control section 130 to the on-screen display processing section 105...”, col. 7 lines 46-50).**

Art Unit: 2621

5. Consider **claim 5**, and as applied on claim 4, Uchida et al. teaches the method of claim 4, wherein step (a) comprises:

converting the received key instruction to a corresponding key code which is stored in advance (“**The remote control signal –referring to the control signal received by section 332- may include an instruction for turning the set-top box 300 on or off, a channel changing instruction, or control the demultiplexer 304 to change the program data to be extracted**”, col. 14 lines 24-27, this shows that the controller has to extract first the control signal to be sent to section 306 out of a plurality of possible control signals, which implies that it needs to have the corresponding output to any of those signals stored in advance on a storage unit like ROM 312 that “**stores...data necessary for such processing**”, col. 12 lines 38-40);

generating OSD information that corresponds to a function control instruction of the key code (“**The on-screen display processing section 306 of the set-top box 300 is a text/graphic processing circuit which performs video signal processing to allow various messages or an electronic program guide to be displayed.**”, col. 13 lines 56-59, which are displayed after supplied by “**the control section 310...in accordance with an instruction from the user**”, col. 13 lines 43-46) while modulating the key code to a radio signal (“**The transmission processing section 209 performs modulation and amplification in accordance with a control signal from control section 230**”, col. 11 lines 16-19 and that same signal is “**transmitted by**

radio through the Multicoupler 210 and the transmission/reception antenna 211”
col. 11 lines 19-22); and

transmitting the modulated radio signal through a channel separate from an audio/video channel (**When transmitting a signal as in section 209, it is known that frequency division multiplexing is used regularly, which in given case different channels are used**).

6. Consider **claim 6**, and as applied on claim 5, Uchida et al. teaches the method of claim 5, wherein step (b) comprises:

receiving the radio signal (“**... the display apparatus 100 can receive signals from the base apparatus 200 through the transmission/reception antenna 101...**”, col. 7 lines 1-4) through the channel separate from the audio/video channel (**When transmitting a signal as in section 209, it is known that frequency division multiplexing is used regularly, which in given case different channels are used**);

demodulating the radio signal (“**The reception processing section 103 performs required processing, including demodulation of a received signal and supplies the demodulated signal to decoding section 104...**”, col. 7 lines 5-8) to extract the key code (**As seen in Fig. 2, the bi-directional arrow from 104 to control section 130, shows that the code is separated and sent to the control section since audio and video signals go to their respective amplification and processing section**);

generating OSD information that corresponds to the key code (“**The on-screen display processing section 105 is a text/graphic processing circuit for performing video signal processing that allows the control panel CP and various messages to be displayed in accordance with data supplied from control section 130...when a CP is to be displayed... the control panel is synthesized with the video signal from the decoding section 104 by the on-screen display processing section 105**”, col. 7 lines 30-41); and

displaying the OSD information on the display device screen (“**...when character information indicating channel selections or volume bar indicating the volume level is to be displayed – referring to being displayed on screen 107 – information is supplied from the control section 130 to the on-screen display processing section 105...**”, col. 7 lines 46-50).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al. (Patent No. US 6,930,661 B2) in view of Shibata et al. (Patent No. US 7,137,138 B2).

9. Consider **claim 1**, Uchida et al. teaches a wireless set-top box system comprising:

a set-top box (“**set-top box, 300**” connected to “**base apparatus 200**”, Fig. 1, given that “**the base apparatus 200 ...may also function as a set-top box**”, col. 18 lines 7-9)) operable to receive function control instructions (“**The set-top box 300 has a remote control signal reception section 332 for receiving infrared remote control signals from a remote control-numbers referring to Fig.4 -**”, see col. 5 lines 32-34), generate on- screen-display (OSD) information (“**...various messages or an electronic program guide to be displayed.**”, col. 13 lines 57-59, which inherently are in electric form for operation and transmission) corresponding to the function control instruction (“**...an electronic program guide display key on the control panel CP so that a program guide is formed by the set-top box 300...**”, display the OSD information on a first screen (“**...and displayed on the LCD 107 of the display apparatus 100...**”), and wirelessly transmit the function control instruction; through the base apparatus 200.”, col.17 lines 46-50).

Uchida et al. also teaches having a display device (“**display apparatus 100, Fig.1**”) operable to receive the function control instruction wirelessly transmitted by the set-top box (“**Thus, the display apparatus 100 can receive signals from the base apparatus 200 through the transmission/reception antenna..**” col. 7 lines 1-4), generate OSD information corresponding to the function control instruction (**Bi-directional arrow on Fig. 2 from OSD Processing Section 105 , after receiving “display data such as text...received through the modem ...from the set-top box**

Art Unit: 2621

300”(col. 7 lines 13-15), to the control unit 130 , which “supplies information to be displayed” (col.7 lines 39-40) shows the system’s capability of generation after reception of a control instruction from the set-top box) and display the OSD information on a screen (“...when character information indicating channel selections or volume bar indicating the volume level is to be displayed – referring to be displayed on screen 107 – information is supplied from the control section 130 to the on-screen display processing section 105...”, col. 7 lines 46-50). On the other hand, Uchida et al. does not explicitly teach having a second screen.

However, in the same field of endeavor –distributing video wirelessly between devices- Shibata et al. (Pat. No. US 7,137,138 B2) teaches having a retransmission device (30, Fig. 2), and a plurality of display devices (51-54, Fig. 2) which are able to receive and display what is wirelessly transmitted by retransmission device 30 (“The display devices 51-54 receive common high frequency signals transmitted from the retransmission device 30 and can select anyone of broadcasts, e.g., CS broadcast 1, BS broadcast 2, terrestrial broadcast 3 and CATV 4.” –numbers referring to Fig. 2.) and located in different places “close to the retransmission device 30 or remote therefrom...” (Col. 8 lines 59-65).

Therefore, it would have been obvious to an ordinary skilled in the art at the time of the invention, to have treated Uchida’s set-top box and base apparatus 200 as Shibata’s retransmission device 30 and have placed plural number of Uchida’s display devices 100 at least with receiving capabilities (receiving antenna) in different parts of the premises for the benefit of having a network of display devices able to display the

same transmitted signals in different locations and let the viewer to mobilize throughout different rooms (let's say when he/she is performing non-stationary activities) and being able to continue watching the program of his/her preference.

10. Consider **claim 2**, and as applied on claim 1, Uchida et al. teaches a system wherein the set-top box comprises:

a first signal processor (**304 and 305, Fig. 4**) operable to extract transport streams from broadcast signals (“**The demultiplexer 304 extracts video data and audio data of a program broadcast on the channel selected by user and supplies the extracted data to the decoding section 305.**”, col.13 lines 35-38), decode the transport streams into video and audio signals (“**The video signal decoding of the decoding expands (decompresses) the video data to restore the signal prior to data compression then converts the decompressed digital video signal to obtain an analog signal and supplies the analog video signal to the on-screen display processing section 306**”, col. 13 lines 50-55), and manipulate the video and audio signals according to the function control instructions (“**The on-screen display processing section 306 of the set-top box 300 is a text/graphic processing circuit which performs video signal processing to allow various messages or an electronic program guide to be displayed.**”, col. 13 lines 56-59, which are displayed after supplied by “**the control section 310...in accordance with an instruction from the user**”, col. 13 lines 43-46);

an infrared receiving unit (**Remote control signal reception section 332, col. 14 lines 19-20 or 332 Fig. 4**) operable to receive infrared key signals from a remote control device (“... a remote control signal of infrared rays transmitted to the set-top box 300...is received by the remote control signal reception section 332”, col. 14 lines 16-20) and amplify the infrared key signals to a predetermined amplitude (**It is inherent in electronics that if a device needs a predetermined amplitude level to function, necessary amplification is required**);

a first controller operable (**Control section 310, Fig. 4 or control section 230 Fig. 3, depending what the broadcast input signal is**) to extract a key code that corresponds to the function control instruction from the infrared key signals received from the infrared receiving unit (“**The remote control signal –referring to the control signal received by section 332- may include an instruction for turning the set-top box 300 on or off, a channel changing instruction, or control the demultiplexer 304 to change the program data to be extracted**”, col. 14 lines 24-27, this shows that the controller has to extract first the control signal to be sent to section 306 out of a plurality of possible control signals), and output (**sending signal to section 306**) the key code corresponding to the function control instruction to the first signal processor (“**The on-screen display processing section 306 of the set-top box 300 is a text/graphic processing circuit which performs video signal processing to allow various messages or an electronic program guide to be displayed.**”, col. 13 lines 56-59, which are displayed after supplied by “**the control section 310...in accordance with an instruction from the user**”, col. 13 lines 43-46);

Art Unit: 2621

a first OSD generating unit (**Control section 310, Fig. 4 or control section 230 Fig. 3, depending the what the broadcast input signal is**) operable to generate OSD information corresponding to the key code generated by the first controller ("The on-screen display processing section 306 of the set-top box 300 is a text/graphic processing circuit which performs video signal processing to allow various messages or an electronic program guide to be displayed.", col. 13 lines 56-59, which are displayed after supplied by "the control section 310...in accordance with an instruction from the user", col. 13 lines 43-46);

a first mixing unit (**OSD Processing Section 306, Fig. 4**) operable to mix video signals generated by the first signal processor and the OSD information generated by the OSD generating unit ("...the on-screen section 306 synthesizes message information –referring to control unit 310 output- with the video signal -304 and 305 output- or forms a video signal to be used to display an electronic program guide and outputs this synthesized or formed signal", col. 13 lines 63-67) ;

a first display unit (**Display apparatus 100, Fig. 1**) operable to display the mixed signals of the video signals and the OSD information received from the first mixing unit ("The on-screen display processing section 306 of the set-top box 300 is a text/graphic processing circuit which performs video signal processing to allow various messages or an electronic program guide to be displayed.", col. 13 lines 56-59-; and,

a transmitting module (**Compression Processing section 207, Transmission Signal Formation section 208, Transmission Processing section 209, Multicoupler**

210 and antenna 211 as shown in Fig. 3) operable to convert the transport streams extracted by the signal processor and the key code extracted by the first controller into radio signals (“The transmission signal processed by the transmission processing section 209 is transmitted by radio through the Multicoupler 210 and the transmission/reception antenna 211...”, col. 11 lines 14-16) in a predetermined format (“The transmission signal formation section 208 forms a transmission signal in conformity with a predetermined communication protocol”, col. 11 lines 8-10) and transmit the radio signals through different respective channels (When transmitting a signal as in section 209, it is known that frequency division multiplexing is used regularly, which in given case different channels are used).

11. Consider claim 3, and as applied in claim 2, Uchida et al. teaches having a system wherein the display device comprises:

a receiving module (**Reception Processing section 103 and Decoding section 104, Fig. 2**) operable to divide the radio signals received from the transmitting module into the transport streams (“Decoding section 104... demultiplexes the signal into a video signal and an audio signal”, col. 7 lines 20-22) and the key code (**The Bi-directional arrow from decoding section 104 and control section 130 in Fig. 2, shows that the code or control information is separated and sent to the control section for further processing at the OSD Processing Section 105 after control section output**);

a second signal processor (**Video Signal Processing section 106 and Audio Signal Amplification section 108, Fig. 2**) operable to decode the transport streams received from the receiving module to video (“**The video processing section 106 forms a display signal from the video signal and supplies the display signal to the LCD 107...** In this manner, video information corresponding to the video signal transmitted by radio from the base apparatus 200 is displayed on the display screen...If display information...is synthesized by the on-screen display processing section 105, then the display information is displayed along with the video information.” col. 7 lines 56-64) and audio signals (“...the audio signal amplification section 108 amplifies the audio signal supplied thereto to a predetermined level and supplies the resulting audio signal to the speaker 109”, col. 7 line 66 through col. 8 lines 2) and manipulate the video and audio signals according to a function control instruction;

a second controller (**Control section 130, Fig.2**) operable to extract the key code that corresponds to the function control instruction from the radio signals received from the receiving module, and output the key code corresponding to the function control instruction to the second signal processor (**The Bi-directional arrow from decoding section 104 and control section 130 in Fig. 2, shows that the code or control information is separated and sent to the control section for further processing at the OSD Processing Section 105 after control section output**);

a second OSD generating unit (**Control section 130**) operable to generate OSD information corresponding to the key code generated by the second controller (**The Bi-**

directional arrow from decoding section 104 and control section 130 in Fig. 2, shows that the code or control information is separated and sent to the control section for further processing at the OSD Processing Section 105 after control section output);

a second mixing unit (OSD Processing section 105, Fig. 2) operable to mix video signals generated by the second signal processor (Video Signal Processing section 106 and Audio Signal Amplification section 108, Fig. 2) and the OSD information generated by the second OSD generating unit (“The on-screen display processing section 105 is a text/graphic processing circuit for performing video signal processing that allows the control panel CP and various messages to be displayed in accordance with data supplied from control section 130...when a CP is to be displayed... the control panel is synthesized with the video signal from the decoding section 104 by the on-screen display processing section 105”, col. 7 lines 30-41).

In addition, Shibata et al. teaches a system having a second display (**one of the plurality of displays 51-54, Fig. 2**) unit operable to display the mixed signals of the video signals and the OSD information generated by the second mixing unit.

Therefore, it would have been obvious to an ordinary skilled in the art to combine both teachings for the same motivation explained in claim 1.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. A list of said art is provided below and the reason they are considered pertinent to the examiner:

Prior Art	Reason to be pertinent
Margulis (Pat. No. US 6,263,503 B1)	Possesses the structure and functionality of the invention.
Russ et al. (Pub. No. US 2003/0097662 A1)	Shows that transmitting device can be integrated to a TV or set-top box.
Fullerton et al. (Pub. No. US 2005/0223407)	Shows remote display devices connected to a set-top box wirelessly.
Naiff (Pat. No. US 6,271,837 B1)	Shows wireless connection between a display device and a computer using IR or RF signals.
Levandowski (Pat. No. US 6,704,060 B2)	Shows structure for displaying two different channels simultaneously while the devices communicate wirelessly.
Korean Patent Reg. No. 0239214	Shows using a 2.5 GHz microwave video transmitter and 440 MHz band transmitter and receiver for control signals.
Nakamura Koichi (JP2002-112135)	Shows structure and two displays receiving wireless TV broadcast from a set-top box and displaying it.
<i>"Single chip video processor for digital HDTV", Hideki Yamauchi</i>	Shows a processor with OSD circuitry integrated to it.

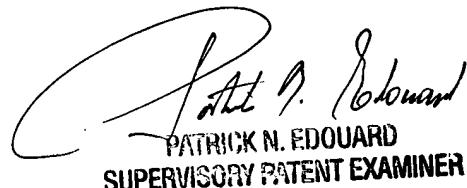
<p><i>"Embedded processor directly drives an On-Screen Display", Electronic Design website</i></p>	<p>Shows a processor with OSD circuitry integrated to it.</p>
--	---

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Parra whose telephone number is 571-270-1449. The examiner can normally be reached on Under Academy Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OP



PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER